

WHAT IS CLAIMED IS:

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1. A data communication device that is connected to a central management device through a communication line, and controls communication between said central management device and an image-forming device, said data communication device comprising:
- 10 a power source;
- a data-storing unit storing data related to said image-forming device;
- a data transmission unit;
- 15 a transmission-request generating unit being always supplied with electricity from said power source, and generating a transmission request that requests for transmission of the data to said central management device; and
- 20 a power-supply control unit being always supplied with the electricity from said power source, and supplying the electricity from said power source to a communication-related part including said data transmission unit, if said transmission-request
- 25 generating unit generates the transmission request,

wherein said data transmission unit transmits the data to said control management device if being supplied with the electricity from said power source.

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2. The data communication device as claimed in claim 1, wherein said power-supply control unit stops supplying the electricity from said power source to said communication-related part, after said data transmission unit completes transmitting the data related to said image-forming device to said central management device.

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3. The data communication device as claimed in claim 1, wherein said transmission-request generating unit includes:

a time generating unit generating a current time; and
a time comparing unit comparing the current time with a predetermined data-transmission time, and generating the transmission request if deciding that the

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current time matches with the data-transmission time.

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4. The data communication device as claimed in claim 1, wherein said transmission-request generating unit includes:

10 a time generating unit generating a current time;

a data deciding unit comparing the current time with a predetermined data-transmission time, and deciding whether the data related to said image-forming device is stored in said data-storing unit if deciding
15 that current time matches with the data-transmission time; and

a transmission requesting unit generating the transmission request if said data deciding unit decides that the data related to said image-forming device is
20 stored in said data-storing unit.

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5. The data communication device as claimed

in claim 1, wherein said transmission-request generating unit includes:

a time generating unit generating a current time;

5 a data deciding unit deciding whether the data related to said image-forming device is stored in said data-storing unit; and

a time comparing unit comparing the current time with a predetermined data-transmission time
10 corresponding to the data related to said image-forming device if said data deciding unit decides that the data related to said image-forming device is stored in said data-storing unit, and generating the transmission request if deciding that the current time matches with
15 the data-transmission time.

20 6. The data communication device as claimed in claim 1, wherein said transmission-request generating unit includes:

a time generating unit generating a current time;

25 a data deciding unit deciding whether the data

related to said image-forming device is stored in said data-storing unit;

5 a time setting unit setting a transmission time corresponding to the data related to said image-forming device, if said data deciding unit decides that the data related to said image-forming device is stored in said data-storing unit; and

10 a time comparing unit comparing the current time with the transmission time, and generating the transmission request if deciding that the current time matches with the transmission time.

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7. The data communication device as claimed in claim 1, further comprising a call-origin deciding unit being always supplied with the electricity from said power source, and deciding whether a call origin is
20 said central management device based on a signal received continuously after a call signal, if receiving the call signal from said communication line in accordance with a call out made by the call origin,

wherein said power-supply control unit is
25 always supplied with the electricity from said power

source, and supplies the electricity from said power source to said communication-related part if said call-origin deciding unit decides that the call origin is said central management device, and

5 wherein said data transmission unit transmits the data related to said image-forming device to said control management device if being supplied with the electricity from said power source.

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8. The data communication device as claimed in claim 7, wherein said power-supply control unit stops
15 supplying the electricity from said power source to said communication-related part, after said data transmission unit completes transmitting the data related to said image-forming device to said central management device.

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9. The data communication device as claimed in claim 1, further comprising:
25 a transmission-request-signal transmitting

unit;

a data writing unit; and

an acquisition-request generating unit being
always supplied with electricity from said power source,

5 and generating an acquisition request that requests for
acquisition of the data related to said image-forming
device from said image-forming device,

wherein said power-supply control unit
supplies the electricity from said power source to said
10 transmission-request-signal transmitting unit and said
data writing unit if said acquisition-request generating
unit generates the acquisition request, said
transmission-request-signal transmitting unit transmits
a transmission-request signal to said image-forming
15 device if being supplied with the electricity from said
power source, and said data writing unit writes the data
related to said image-forming device in said data-
storing unit if receiving the data related to said
image-forming device from said image-forming device in
20 response to said transmission-request signal after being
supplied with the electricity from said power source.

10. The data communication device as claimed
in claim 9, wherein said power-supply control unit stops
supplying the electricity from said power source to said
transmission-request-signal transmitting unit and said
5 data writing unit, after said data writing unit
completes writing the data related to said image-forming
device in said data-storing unit.

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11. The data communication device as claimed
in claim 9, wherein said acquisition-request generating
unit includes:

15 a time generating unit generating a current
time; and

a time comparing unit comparing the current
time with a predetermined data-acquisition time, and
generating the acquisition request if deciding that the
20 current time matches with the data-acquisition time.

25 12. The data communication device as claimed

in claim 7, further comprising:

a data-type deciding unit; and

a transmission-request-signal transmitting unit,

5 wherein said power-supply control unit
supplies the electricity from said power source to said
data-type deciding unit and said transmission-request-
signal transmitting unit if said call-origin deciding
unit decides that the call origin is the central
10 management device,

 wherein said data-type deciding unit decides a
type of data that should be transmitted to said central
management device based on said signal received
continuously after the call signal from said
15 communication line, after being supplied with the
electricity from said power source,

 wherein said transmission-request-signal
transmitting unit transmits a transmission-request
signal to said image-forming device, if and only if said
20 transmission-request-signal transmitting unit is
supplied with the electricity from said power source,
and said data-type deciding unit decides that said data
which should be transmitted to said central management
device is the data related to said image-forming device,
25 and

wherein said data transmission unit transmits
the data related to said image-forming device, to said
central management device, if and only if being supplied
with the electricity from said power source and
5 receiving said data related to said image-forming device
from said image-forming device in response to the
transmission-request signal.

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13. The data communication device as claimed
in claim 12, wherein said transmission-request-signal
transmitting unit adds information indicating said type
15 decided by said data-type deciding unit, to the
transmission-request signal.

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14. The data communication device as claimed
in claim 1, further comprising a data writing unit,
wherein said power-supply control unit
supplies the electricity from said power source if
25 receiving a startup signal starting up said data

communication device from said image-forming device, and
said data writing unit writes the data related to said
image-forming device in said data-storing unit if being
supplied with the electricity from said power source and
5 receiving the data related to said image-forming device
from said image-forming device.

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15. The data communication device as claimed
in claim 14, wherein said power-supply control unit
stops supplying the electricity from said power source
to said data writing unit after said data writing unit
15 completes writing the data related to said image-forming
device in said data-storing unit.

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16. The data communication device as claimed
in claim 14, further comprising a data-type deciding
unit,

wherein said power-supply control unit
25 supplies the electricity from said power source to said

data-type deciding unit if receiving the startup signal
from said image-forming device, said data-type deciding
unit decides a type of the data related to said image-
forming device if receiving the data related to said
5 image-forming device from said image-forming device
after being supplied with the electricity from said
image-forming device, said power-supply control unit
supplies the electricity from said power source to said
communication-related part if said data-type deciding
10 unit decides that the data received from said image-
forming device is data indicating an abnormal condition,
and said data transmission unit transmits the data
received from said image-forming device to said data
communication device if receiving the electricity from
15 the power source.

20 17. The data communication device as claimed
in claim 1, wherein said communication line is a public
line, and said image-forming device is a copy machine.

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18. An image-forming device that is connected to a data communication device, and communicates with a central management device in accordance with control carried out by said data communication device, said

5 image-forming device comprising:

a power source;

a data transmission unit; and

a power-supply control unit being always supplied with electricity from said power source, and
10 supplying the electricity from said power source to a communication-related part including said data transmission unit if receiving a transmission-request signal from said data communication device,

wherein said data transmission unit transmits
15 data related to said image-forming device, to said data communication device if being supplied with the electricity from said power source.

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19. The image-forming device as claimed in claim 18, wherein said data related to said image-forming device is data that indicates a total number of
25 images formed by said image-forming device or a

condition of said image-forming device.

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20. The image-forming device as claimed in
claim 18, wherein said power-supply control unit stops
supplying the electricity from said power source to said
communication-related part, after said data transmission
10 unit completes transmitting the data related to said
image-forming device, to said data communication device.

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21. The image-forming device as claimed in
claim 18, wherein said power-supply control unit
supplies the electricity from said power source to a
part that needs power supply for acquiring data, which
20 should be transmitted to said central management device
among the data related to said image-forming device, if
receiving the transmission-request signal from said data
communication device.

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22. The image-forming device as claimed in
claim 21, wherein said power-supply control unit stops
supplying the electricity from said power source to said
part that needs the power supply for acquiring the data,
5 which should be transmitted to said central management
device, after said data transmission unit completes
transmitting the data that should be transmitted to said
central management device, to said data communication
device.

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23. The image-forming device as claimed in
15 claim 21, further comprising a power-supply part setting
unit setting the part that needs the power supply for
acquiring the data, which should be transmitted to said
central management device.

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24. The image-forming device as claimed in
claim 18, wherein said data transmission unit transmits
25 data corresponding to information that indicates a type

of data, which should be transmitted to said central management device, and is added to said transmission-request signal, among the data related to said image-forming device, if said data transmission unit is
5 supplied with the electricity from said power source.

10 25. The image-forming device as claimed in claim 24, wherein said power-supply control unit stops supplying the electricity from said power source to said communication-related part, after said data transmission unit completes transmitting the data corresponding to
15 the information, to said data communication device.

20 26. The image-forming device as claimed in claim 24, wherein said power-supply control unit decides the part that needs the power supply for acquiring the data, which should be transmitted to said central management device, based on said information added to
25 the transmission-request signal, and supplies the

electricity from said power source to the part that
needs the power supply for acquiring the data, which
should be transmitted to said central management device,
if receiving the said data-transmission signal from said
5 data communication device.

10 27. The image-forming device as claimed in
claim 26, wherein said power-supply control unit stops
supplying the electricity from said main power source to
said part that needs the power supply for acquiring the
data, which should be transmitted to said central
15 management device, after said data transmission unit
completes transmitting the data corresponding to the
information to said data communication device.

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28. The image-forming device as claimed in
claim 18, further comprising:
a startup-signal transmitting unit; and
25 a main switch,

wherein said power-supply control unit is always supplied with the electricity from said power source, and supplies the electricity from said power source to said image-forming device entirely according to an operation of said main switch,

wherein said startup-signal transmitting unit transmits a startup signal to said data communication device to start up said data communication device if being supplied with the electricity from said power source, and

wherein said data transmission unit transmits the data related to said image-forming device, to said data communication device after said data transmission unit is supplied with the electricity from said power source, and said startup-signal transmitting unit transmits the startup signal to said data communication device.

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29. The image-forming device as claimed in claim 18, further comprising:

a startup-signal transmitting unit; and
a transmission-request generating unit,

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wherein said transmission-request generating unit is always supplied with the electricity from said power source, and generates a transmission request that requests for transmission of the data related to said image-forming device to said data communication device,

wherein said startup-signal transmitting unit
15 transmits a startup signal to said data communication
device to start up said data communication device if
being supplied with the electricity from said power
source, and

wherein said data transmission unit transmits
20 the data related to said image-forming device, to said
data communication device after said data transmission
unit is supplied with the electricity from said power
source, and said startup-signal transmitting unit
transmits the startup signal to said data communication
25 device.

30. The image-forming device as claimed in claim 29, wherein said power-supply control unit stops supplying the electricity from said power source to said communication-related part, after said data transmission unit completes transmitting the data related to said image-forming device to said data communication device.

31. The image-forming device as claimed in claim 29, wherein said power-supply control unit supplies the electricity from said power source to a part that needs power supply for acquiring data, which should be transmitted to said central management device among the data related to said image-forming device, if said transmission-request generating unit generates the transmission request.

32. The image-forming device as claimed in claim 31, wherein said stops supplying the electricity from said power source to said part that needs the power

supply for acquiring the data, which should be
transmitted to said central management device, after
said data transmission unit completes transmitting the
data that should be transmitted to said central
5 management device, to said data communication device.

10 33. The image-forming device as claimed in
claim 31, further comprising a power-supply part setting
unit setting the part that needs the power supply for
acquiring the data, which should be transmitted to said
central management device.

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34. An image-forming device that is connected
20 to a central management device through a communication
line, comprising:

a power source;
a communication control unit controlling
communication with said central management device;
25 a transmission-request generating unit being

always supplied with electricity from said power source,
and generating a transmission request that requests for
data transmission to said central management device; and

a power-supply control unit being always
5 supplied with the electricity from said power source,
and supplying the electricity from said power source to
said communication control unit if said transmission-
request generating unit generates the transmission
request,

10 wherein said communication control unit
transmits data related to said image-forming device to
said central management device, if being supplied with
the electricity from said power source.

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35. The image-forming device as claimed in
claim 34, wherein said central management device is an
20 external device, and said communication line is a public
line.

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36. The image-forming device as claimed in
claim 34, wherein said data related to said image-
forming device is data that indicates a total number of
images formed by said image-forming device or a
5 condition of said image-forming device.

10 37. The image-forming device as claimed in
claim 34, wherein said power-supply control unit stops
supplying the electricity from said power source to said
communication control unit, after said communication
control unit completes transmitting the data related to
15 said image-forming device to said central management
device.

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38. The image-forming device as claimed in
claim 34, wherein said transmission-request generating
unit includes:

a time generating unit generating a current
25 time; and

a time comparing unit comparing the current time with a predetermined data-transmission time, and generating the transmission request if deciding that the current time matches with the data-transmission time.

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39. The image-forming device as claimed in
10 claim 34, further comprising a call-origin deciding unit
being always supplied with the electricity from said
power source, and deciding whether a call origin is said
central management device based on a signal received
continuously after a call signal, if receiving the call
15 signal from said communication line in accordance with a
call out made by the call origin,

wherein said power-supply control unit is
always supplied with the electricity from said power
source, and supplies the electricity from said power
20 source to said communication control unit if said call-
origin deciding unit decides that the call origin is
said central management device, and

wherein said communication control unit
transmits the data related to said image-forming device
25 to said control management device if being supplied with

the electricity from said power source.

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40. The image-forming device as claimed in claim 35, wherein said power-supply control unit stops supplying the electricity from said power source to said communication control unit, after said communication control unit completes transmitting the data related to said image-forming device to said central management device.

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41. The image-forming device as claimed in claim 39, wherein said power-supply control unit supplies the electricity from said power source to a part that needs power supply for acquiring data, which should be transmitted to said central management device among the data related to said image-forming device, if said call-origin deciding unit decides that the call origin is said central management device.

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42. The image-forming device as claimed in claim 41, wherein said power-supply control unit stops supplying the electricity from said power source to said part that needs the power supply for acquiring the data, which should be transmitted to said central management device, after said communication control unit completes transmitting the data that should be transmitted to said central management device, to said central management device.

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43. The image-forming device as claimed in claim 41, further comprising a power-supply part setting unit setting the part that needs the power supply for acquiring the data, which should be transmitted to said central management device.

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44. The image-forming device as claimed in claim 39, further comprising:

25 a data-type deciding unit being supplied with

the electricity from said power source, and deciding a type of data that should be transmitted to said central management device based on the signal received continuously after the call signal from said

5 communication line, if said call-origin deciding unit decides that the call origin is said central management device; and

 a power-supply part deciding unit being always supplied with the electricity from said power source,
10 and deciding a part that needs power supply for acquiring data, which should be transmitted to said central management device among the data related to said image-forming device,

 wherein said power-supply control unit
15 supplies the electricity from said power source to a part decided by said power-supply part deciding unit as the part that needs power supply for acquiring data, which should be transmitted to said central management device, and

20 wherein said communication control unit acquires the data that should be transmitted to said central management device, and transmits the data that should be transmitted to said central management device, to said central management device, if being supplied
25 with the electricity from said power source.

45. The image-forming device as claimed in claim 44, wherein said power-supply control unit stops supplying the electricity from said power source to said communication control unit and said part decided by said power-supply part deciding unit as the part that needs power supply for acquiring data, which should be transmitted to said central management device, if said communication control unit completes transmitting the data that should be transmitted to said central management device, to said central management device.

46. An image-forming-device management system, comprising:

- an image-forming device;
- a data communication device; and
- a central management device managing said image-forming device remotely through a communication line and said data communication device,

wherein said data communication device includes:

- a first power source;
- a data-storing unit storing data of said

image-forming device;

a data-type deciding unit;

a transmission-request-signal transmitting
unit;

5 a first data transmission unit;

a call-origin deciding unit being always
supplied with the electricity from said first power
source, and deciding whether a call origin is said
central management device based on a signal received

10 continuously after a call signal if receiving the call
signal from said communication line in accordance with a
call out made by the call origin; and

a first power-supply control unit being always
supplied with the electricity from said first power

15 source, and supplying the electricity from said first
power source to said data-type deciding unit, said
transmission-request-signal transmitting unit and said
first data transmission unit, if said call-origin
deciding unit decides that the call origin is said

20 central management device,

wherein said data-type deciding unit decides a
type of data that should be transmitted to said central
management device based on the signal received
continuously after the call signal from said

25 communication line, if being supplied with the

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electricity from said first power source,

wherein said transmission-request-signal
transmitting unit transmits a transmission-request
signal to said image-forming device, if and only if said
5 transmission-request-signal transmitting unit is
supplied with the electricity from said first power
source, and said data-type deciding unit decides that
the data which should be transmitted to said central
management device is the data related to said image-
10 forming device,

wherein said first data transmission unit
transmits the data related to said image-forming device
to said central management device if being supplied with
the electricity from said first power source, and
15 receiving the data related to said image-forming device
from said image-forming device in response to the
transmission-request signal transmitted to said image-
forming device by the transmission-request-signal
transmitting unit, and

20 wherein said first power-supply control unit
stops supplying the electricity from said first power
source to said data-type deciding unit, said
transmission-request-signal transmitting unit and said
first data transmission unit, after said first data
25 transmission unit completes transmitting the data

related to said image-forming device to said central management device,

wherein said image-forming device includes:

a second power source;

5 a second data transmission unit; and

a second power-supply control unit that is always supplied with the electricity from said second power source, and supplies the electricity from said second power source to a communication-related part
10 including said second data transmission unit if receiving the transmission-request signal from said data communication device,

wherein said second data transmission unit transmits the data related to said image-forming device,
15 to said data communication device if being supplied with the electricity from said second power source, and

wherein said second power-supply control unit stops supplying the electricity from said second power source to said communication-related part after said
20 second data transmission unit completes transmitting the data related to said image-forming device to said data communication device.

47. The image-forming-device management system as claimed in claim 46,

wherein said transmission-request-signal transmitting unit of the data communication device adds
5 information indicating the type of the data that should be transmitted to said central management device, to the transmission-request signal, said type being decided by said data-type deciding unit, and

wherein said second power-supply control unit
10 of the image-forming device decides a part that needs power supply for acquiring data that should be transmitted to said central management device based on said information added to the transmission-request signal if receiving the transmission-request signal from
15 said data communication device, and supplies the electricity from said second power source to a part decided by said second power-supply control unit as the part that needs power supply for acquiring the data that should be transmitted to said central management device,
20 and stops supplying the electricity from said second power source to said part decided by said second power-supply control unit as the part that needs power supply for acquiring the data that should be transmitted to said central management device, after said second data
25 transmission unit completes transmitting the data that

should be transmitted to said central management device,
to said data communication device.

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48. The image-forming-device management
system as claimed in claim 46, wherein said data related
to said image-forming device is data that indicates a
10 total number of images formed by said image-forming
device or a condition of said image-forming device.

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49. A method of controlling power supply in
an image-forming-device management system that remotely
manages an image-forming device by using a central
management device through a communication line and a
20 data communication device, said method comprising the
steps of:

supplying electricity constantly from a power
source of said data communication device to call-signal
receiving means for receiving a call signal from the
25 communication line according to a call out made by a

call origin, and call-origin deciding means for deciding whether the call origin is said central management device when receiving the call signal by the call-signal receiving means;

- 5 supplying the electricity from the power source of said data communication device to a communication-related part if deciding that the call origin is said central management device by said call-origin deciding means, said communication-related part
- 10 including data-type deciding means for deciding a type of data that should be transmitted to said central management device based on a signal received continuously after the call signal from said communication line, transmission-request signal
- 15 transmitting means for transmitting a transmission-request signal added with information indicating the type of the data that should be transmitted to said central management device, said type being decided by said data-type deciding means, to said image-forming
- 20 device if recognizing that the data which should be transmitted to said central management device is data related to said image-forming device based on a result of deciding the type of the data that should be transmitted to said central management device, and data
- 25 transmission means for receiving data from said image-

forming device in response to the transmission-request signal transmitted to said image-forming device, and transmitting the data received from said image-forming device to said central management device;

5 stopping the power supply from said power source to said communication-related part after completing transmission of the data received from said image-forming device to said central management device;

10 supplying the electricity constantly from a power source of said image-forming device to signal receiving means receiving the transmission-request signal from said data communication device;

15 deciding a part that needs the power supply for acquiring the data which should be transmitted to said central management device among the data related to said image-forming device, based on said information added to the transmission-request signal if the transmission-request signal is received by said signal receiving means;

20 supplying the electricity from the power source of said image-forming device to the part that needs the power supply for acquiring the data which should be transmitted to said central management device, and a part that needs the power supply for transmitting
25 the data to said data communication device; and

stopping the power supply from the power
source of said image-forming device to the part that
needs the power supply for acquiring the data which
should be transmitted to said central management device,
5 and the part that needs the power supply for
transmitting the data to said data communication device,
after transmitting the data to said data communication
device.

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50. A method of controlling power supply in
an image-forming-device management system that manages
15 an image-forming device by using a central management
device through a data communication device, said method
comprising the steps of:

supplying electricity constantly from a power
source of said data communication device to call-signal
20 receiving means for receiving a call signal from a call
origin, and call-origin deciding means for deciding
whether the call origin is said central management
device when receiving the call signal by the call-signal
receiving means, in said data communication device;

25 supplying the electricity from the power

source of said data communication device to a
communication-related part if deciding that the call
origin is said central management device;

transmitting a transmission request from said
5 data communication device to said image forming device
by use of said communication-related part;

receiving data from said image-forming device
in response to the transmission request transmitted to
said image-forming device;

10 transmitting the data to said central
management device; and

stopping supplying the electricity from said
power source to said communication-related part after
transmitting the data to said central management device.

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51. The method as claimed in claim 50,
20 further comprising the steps of:

supplying the electricity constantly from a
power source of said image-forming device to request
receiving means receiving the transmission request from
said data communication device, in said image forming
25 device;

deciding a first part that needs the power supply for acquiring the data, based on the transmission request if the transmission-request signal is received by said signal receiving means;

5 supplying the electricity from the power source of said image-forming device to the first part, and a second part that needs the power supply for transmitting the data to said data communication device;

10 transmitting the data to said data communication device; and

15 stopping supplying the electricity from the power source of said image-forming device to the first part and the second part after transmitting the data to said data communication device.